Engineering Interpretations

Construction Material and Excavating

Soils are rated as sources for road fill, topsoil, sand, and gravel. Suitability ratings of good, fair, or poor are given for soils used as a source of road fill and topsoil. Ratings of probable and improbable are given for sand and gravel. A rating of probable means that on the basis of the available evidence, the source material is likely to be in or below the soil. A rating of improbable means that the source material is unlikely to be in or below the soil. The ratings for sand and gravel do not consider the quality of the source material because quality depends on how the source material is to be used.

Road Fill

Road fill consists of soil material that is excavated from its original position and used in road embankments elsewhere. The evaluations for road fill are for low embankments that generally are less than 6 feet in height and are less exacting in design than high embankments such as those along superhighways. The rating is given for the whole soil, from the surface to a depth of about 5 feet, based on the assumption that soil horizons will be mixed in loading, dumping, and spreading. Soils are rated as to the amount of material available for excavation, the ease of excavation, and how well the material performs after it is in place.

Sand

Sand as a construction material is usually defined as particles ranging in size from 0.074 mm (sieve #200) to 4.75 mm (sieve #4) in diameter. Sand is used in great quantities in many kinds of construction. Specifications for each purpose vary widely. The intent of this rating is to show only the probability of finding material in suitable quantity. The suitability of the sand for specific purposes is not evaluated. If the lowest layer of the soil contains sand, the soil is rated as a probable source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

Gravel

Gravel as a construction material is defined as particles ranging in size from 4.76 mm (sieve #4) to 76 mm (3 inches) in diameter.

Gravel is used in great quantities in many kinds of construction. Specifications for each purpose vary widely. The intent of this rating is to show only the probability of finding material in suitable quantity. The suitability of the gravel for specific purposes is not evaluated. If the lowest layer of the soil contains gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the gravel layer below the depth of observation exceeds the minimum thickness.

Topsoil

The term "topsoil" has several meanings. As used here, the term describes soil material used to cover an area so as to improve soil conditions for establishment and maintenance of adapted vegetation. Generally, the upper part of the soil, which is richest in organic matter, is most desirable; however, material excavated from deeper layers is also used. In this rating, the upper 40 inches of soil material is evaluated for use as topsoil. In the

borrow area, the material below 40 inches is evaluated for its suitability for plant growth after the upper 40 inches is removed. The soil properties that are used to rate the soil as topsoil are those that affect plant growth, the ease of excavation, loading, and spreading, and those that affect the reclamation of the borrow area.

This subsection includes:

- **(a) Construction Materials and Excavating**

Construction Materials

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
15000:				
BASEHOR	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones depth to rock
15001:				
BASEHOR	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: large stones slope depth to rock
15002:				
MCGIRK	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
40000:				
BARDEN	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
40001:				
BOLIVAR	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
40002:				
LIBERAL	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
46000:				
HUMANSVILLE	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: thin layer too clayey
66000:				
MONITEAU	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
66001:				
DAMERON	Good	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim
70000, 70001:				
BONA	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones
70002, 70003:				
ALSUP	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones too clayey
70004:				
ALSUP	Poor: slope low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones too clayey

Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
70005:				
BLUEYE	Poor: low strength, shrink-swell, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
MOKO	Poor: large stones, depth to rock	Improbable: large stones, excess fines	Improbable: large stones, excess fines	Poor: large stones, depth to rock
70006:				
CRELDON	Poor: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, too clayey
70007:				
CLIQUOT	Poor: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
70008, 70009:				
GOSS	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
70010:				
GOSS	Poor: low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: slope, small stones, too clayey
70011:				
GOSS	Poor: low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: slope, small stones, too clayey
MOKO	Poor: large stones, depth to rock, slope	Improbable: large stones, excess fines	Improbable: large stones, excess fines	Poor: large stones, depth to rock, slope
70012:				
HOBERG	Fair: thin layer, wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones
70013:				
MOKO	Poor: large stones, depth to rock	Improbable: large stones, excess fines	Improbable: large stones, excess fines	Poor: large stones, depth to rock
70014:				
MOKO	Poor: large stones, depth to rock, slope	Improbable: large stones, excess fines	Improbable: large stones, excess fines	Poor: large stones, depth to rock, slope
ROCK OUTCROP.				

Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
70015:				
PEMBROKE	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: area reclaim, small stones, too clayey
70016, 70017, 70018:				
GOODSON	Poor: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, too clayey
70039:				
SACVILLE	Poor: low strength, shrink-swell, wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, wetness
73000:				
POMME	Good	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones
73001:				
GLENSTED	Poor: low strength, shrink-swell, wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey, wetness
73002:				
OCIE	Poor: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
GATEWOOD	Poor: low strength, shrink-swell, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey
73003:				
OCIE	Poor: slope, low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: slope, small stones, too clayey
GATEWOOD	Poor: slope, low strength, shrink-swell, depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope, small stones, too clayey
73004:				
OCIE	Poor: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: slope, small stones, too clayey
73005:				
OCIE	Poor: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: small stones, too clayey

Construction Materials--Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
73006: PERIDGE	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
73007: PLATO	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones too clayey
73008, 73009: VIRATON	Fair: shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
73010: WILDERNESS	Moderate: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
74625: HARTVILLE	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
75375: HORSECREEK	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones too clayey
75376: CEDARGAP	Good	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
75377: RACKET	Good	Probable	Probable	Poor: area reclaim
75378: STURKIE	Fair: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones too clayey
99000. PITS, QUARRIES				
99001. WATER				
99003. MISCELLANEOUS WATER				